Sattoo, T. & Madgwick, H.J.
Forest biomass (Netherlands: Kluwer Academic, 1982)

Sharpe, Grant W., et al.
Introduction to forestry. 5th ed. (New York: McGraw-Hill, 1986). ix, 629 p.

Society of American Foresters
Forestry handbook, edited for the Society by Karl F. Wenger. 2nd. ed. (New York: Wiley, 1984). xix, 1335 p.

Stoddard, Charles H. & Glenn M.
Essentials of forestry practice. 4th ed. (New York: Wiley, 1987). 387 p.

U.S. National Academy of Sciences
Firewood crops: shrub and tree species for energy production (Washington, DC: NAS, 1980). 237 p.

? (incomplete data)
Energy from forest biomass (?: Forest Prod, 1980). 100 p.

Environmentally sound small-scale forestry projects: guidelines for planning (?: Vols. Tech. Asst., 1983). 109 p.

Of special interest may be the following titles specifically related to women's roles in forestry.

FAO
Women in community forestry: a field guide (Rome, 1989).

Hoeksma, J.
Women and social forestry (Wageningen, The Netherlands, Stichting BOS document 10, 1989)

Molnar, Augusta & Schreiber, Gotz
Women and forestry: operational issues (World Bank, 1989)

RWEDP
Women's role in forest resource management: a reader (Bangkok: Regional Wood Energy Development Programme, 1989).

<u>Wood energy news</u>, v.5, no.1 (April, 1990) is a special issue devoted to the topic of women in forestry and includes a list of organiztions with projects involving women in forestry.

APPENDIX 3: Abstracting Journals

Further research into forestry in general or in Afghanistan will require use of the following abstracting journals, which abstract hundreds of forestry, ecology, energy and environmental journals.

Any references found in this way may have to be chased up overseas -- holdings of journals in Pakistan are not great. The Pakistan Forestry Institute has the largest collection of relevant material in Peshawar; NARC in Islamabad is also a good resource center.

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AGRINDEX (ISSN 0254-8801)

Published by: FAO,<br>Viadelle Terme di Caracolla<br>Rome 00100<br>ITALY

Available on-line (ESA, DIALOG, DIMDI, IAEA)

The on-line database is actually called AGRIS. Established in 1975, it receives input from more than 120 institutions around the world. NARC is the participating body in Pakistan and Documentation Section staff there can perform CD-ROM searches on AGRIS disks. This search facility should become available at the NWFP Agricultural University and the Pakistan Forest Institute also, in 1991.

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Bibliography of Agriculture (ISSN 0006-1530)
(a.k.a. AGRICOLA)

Published by: Oryx Press<br>2214 N. Central Ave.,<br>Phoenix, AZ 85004-1483

Available on-line (CISTI)
Published for the US National Agricultural Library. AGRICOLA is the name of the equivalent on-line database.

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Chemical Abstracts (ISSN 0009-2258)

Published by: American Chemical Society<br>Box 3012<br>Columbus, Ohio 43210<br>USA

Available on-line (Orbit, ESA)
Comprehensive abstracts for fuel resources & fuel technology

Ecology Abstracts (ISSN 0143-3296)

Published by: Cambridge Scientific Abstracts
5161 River Road
Bethesda, MD 20816
USA

Available on-line (DIALOG)

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Environment Abstracts (ISSN 0093-3287)

Published by: EIC Intelligence, Inc.
48 W. 38th Street
New York, NY 10018
USA

Available on-line (DIALOG)

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Environmental Periodicals Bibliography

Published by: Environmental Studies Institute,
Riviera Campus,
2060 Alameda Padre Serra,
Santa Barbara, CA
USA

Available on-line (DIALOG)

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Forestry Abstracts (ISSN 0015-7538)
Forestry Products Abstracts (ISSN 0140-4784)
Irrigation & Drainage Abstracts (ISSN 0306-7327)
World Agricultural Economics & Rural Sociology Abstracts

All published by: Commonwealth Agricultural Bureau (CAB)
Dept. CFH/912
Wallingford, Oxon
OX10 8DE
ENGLAND, UK

Available on-line (DIALOG, ESA, CISTI, DIMDI)

FPI holds hardcopy of <u>Forestry Abstracts</u> to 1976, NARC from 1980s to present.

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Fuel and Energy Abstracts (ISSN 0140-6701)
Published by: Butterworths Scientific (for Institute of Fuel)
Westbury House
Guildford, Surrey GU2 5BH
ENGLAND, UK

Not available on-line

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Social Sciences in Forestry: a current selected bibliography and index

Published by: College of Forestry
University of Minnesota
St. Paul, MN 55108

Not available on-line. One issue seen at FPI.

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APPENDIX 4: Organizations and Resource Personnel in Pakistan

Peshawar:

Afghanaid
5-B Gulmohar Road
University Town

Telephone: 42030

Contacts: Antony Spalton

Have distributed fruit tree and poplar saplings to farmers but have no forestry programme as such. Survey data currently being collected may include relevant information (eg. fuel prices) from four northeast provinces. (Information supplied by Mark Pont as Antony Spalton was on leave at time of enquiry.)

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Austrian Relief Committee
80 Park Road,
University Town

Telephone: 42584

Contacts: Noor Aga

Established fruit tree and poplar nurseries in several provinces and some refugee camps in 1989. Have distributed black and white poplar saplings supplied by FAO in Malestan and Jaghori in Ghazni and Maroof in Kandahar. In 1990 began operations in two districts of Logar (Baraki Barak, Kolengar). Each nursery is between one and five jeribs in size.

Note: ARC's Agricultural skills survey report (Peshawar, 1990) records 114 Afghan refugees with some forestry skills and/or qualifications.

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CARE International
1237 Ali Road
Academy Town

Telephone: 43875

Contacts: Dale Harrison

Are interested in providing assistance in training.

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DACAAR
10 Gulmohar Lane
University Town

Telephone: 42516, 43084

Contacts: Abdul Baqi Afzali

DACAAR began a pilot programme by distributing 8,000 leucanae saplings (obtained from IRC) at local prices to several districts in Kunar in 1989. This was not successful. The villagers preferred to receive fruit trees and other agencies were distributing saplings free of charge (contrary to ACBAR guidelines) in the same areas. In 1990, DACAAR cooperated with SCF (US) in the distribution of fruit trees in Qarabagh. Their plans for 1991 center on canal- and road-side plantings of leucanea and eucalypt species.

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Development Alternatives, Inc.
4 A-C Park Avenue
University Town, Peshawar

Telephone: 43219, 45307

Contacts: Dr Abdul Wakil
Tom Harrington

A major contractor of USAID for the Agricultural Sector Support Project. Dr Wakil, Minister of Agriculture in Afghanistan before the war, began agroforestry and horticultural projects for the Agriculture Sector Support Project whilst at VITA; these programmes have accompanied him to DAI. Mr Harrington maintains MARIS, the DAI database.

Dr Wakil's programmes have involved the distribution of fruit tree, poplar and white ash to tree nurseries in six provinces. Each nursery is around 7.5 acres in size. VITA distributed almost half of the 50,000 poplar cuttings provided by FAO in 1989/90. Dr Wakil would like to encourage the use of species other than poplar, since the extensive root system of poplars can damage other crops. He suggests using white ash, mulberry and Russian olive. White ash is stronger than poplar and would prove a good substitute for it; both mulberry and Russian olive are culturally popular, produce a food and can provide fuel from their trimmings. Dr Wakil also advises that a ban on the import of trees from across the border should be imposed by the GOP to discourage further felling of trees in Afghanistan. Further details can be obtained from Naomi Minwalla's report for IRC or directly from Dr Wakil.

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FAO (Peshawar Office)
Gul Haji Plaza
University Town

Telephone: 45321-6

Contacts: Dr John Cartwright (Consultant)

Dr Cartwright has prepared a report for FAO on fruit tree and poplar selection for Afghanistan.

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Institute of Development Studies
NWFP Agricultural University
Peshawar

Telephone: 40230

Contacts: Mohd. Ahmed Khan (Chief of Research, IDS)
Dr David Brown (TAIPAN consultant, IDS)

Academic and research staff specialize in rural economics and rural development in Pakistan. A medium-sized library supports their activities. An attitudes study of Pakistani farmers towards environmental issues including reafforestation is a possibility in 1991.

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International Rescue Committee
Rehabilitation Programme for Afghanistan
39 C S.A. Qayum Road
University Town

Telephone: 41274

Contacts: Bob Bouvier
Noor Rehman

Established fruit tree and pine nurseries in three districts of Paktia (Musa Khel, Jani Khel and Danda Patan) in 1989/90. Also distributed a small number of fruit tree and poplar cuttings provided by FAO in these areas. Are working through local shura to educate local farmers about forest resources, conservation and reafforesttation. The IRC database, which includes various agricultural and demographic statistics, is maintained by Noor Rehman.

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MADERA
53 C-II Gulmohar Lane
University Town, Peshawar

Telephone: 42234

Contacts: Olivier Cossee

MADERA began forestry training in 1989 by bringing men from ten villages of Kunar to Peshawar for a 6 week course. Upon return, they maintain small nurseries and conduct forestry awareness and management activities in their own communities, supported by posters and manuals in Pashtu produced by MADERA staff. Seed is collected from species native to these areas, including cedar, pine and fir. Carpenters and builders are also educated in more economical uses of timber. All of these arrangements are agreed upon with local shura, where extant. A second round of training will commence in 1991.

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NWFP Agricultural University
University Town (behind University of Peshawar)

Telephone: 40230-39 Ext.290

Contacts: Abdul Rehman (Vice-Chancellor)
Attaullah (Librarian)

The library is primarily a resource for students of the university, but the endeavours of Mr Attaullah in acquiring CD-ROM technology mean that various agricultural databases, including AGRIS, may soon be available in Peshawar. Vice-Chancellor of the university Abdul Rehman was formerly with the Pakistan Forest Dept. (NWFP).

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Norwegian Committee

Telephone: 42517

Contacts: Rehman Gul

The Norwegian Committee established a nursery in Dangam, Kunar, in 1988 and have supported the planting of tree seedlings in this and other districts of Kunar. They have provided financial assistance to SERVE, have assisted DACAAR and work closely with MADERA in Kunar. Rehman Gul conducts MADERA's forestry training courses.

Pakistan Environmental Protection Foundation
House 63
Street 2
Defence Colony

Telephone: 78939

Contacts: Mohd. Yousof Khan Orkazai (President)

Established November 1989 to increase public awareness of environmental issues, encourage institutions and government bodies to seek solutions to environmental problems and to establish model environmental preserves in Pakistan. Their projects have included planting of pine trees in Tirah, in association with the Pakistan Forest Dept.

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Forests Department (Peshawar)
Shami Road,
Peshawar

Telephone: 78674

Contacts: Yaryah M. Khan (Chief Conservator)
Jalaluddin Khan (DFO, Coordination & Extension)

The Chief Conservator was not available at the time of our enquiry; his deputy referred us to Jalaluddin Khan. Time did not allow us to visit him (located in Warsak Road) and since GTZ is already cooperating with the Forests Department this avenue was not pursued.

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Pakistan Forest Institute (PFI)
(Off Palosai Road, beyond University of Peshawar)

Telephone: 40580, 42052, 41220

Contacts: Dr. K. Siddiqui (Director-General)
Raja Walayat Hussain (Dir., Forestry Research)
Raja Mohd. Ashfaque (Dir., Forestry Education)
Syed Shamshad (Librarian)

The main teaching and research institution for forestry and related sciences in Pakistan. The library contains the most comprehensive selection of forestry titles in Peshawar and Mr Shamshad is extremely helpful to library patrons. PFI have provided tree seed and assistance in forestry training to some NGO programmes.

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SERVE
5 Mulberry Road
University Town, Peshawar

Telephone: 41706

Contacts: Herman Nyhoff (Forester)
Ghulam Nabi (Field Supervisor)

SERVE has nurseries in several districts of Konar and in the Panjshir Valley (Kapisa). Their activities began in Kunar in 1988 and have expanded in 1989-90 with the help from the Norwegian Committee. They currently operate nurseries of up to 5 jeribs in four districts of Kunar. The main emphasis is on fruit trees; these and poplar seedlings were obtained from FAO via the Pakistan Forest Institute. Other species grown include eucalyptus and leucanae. Field officers negotiate agreements with local shura. Further information may be found in the SERVE Forestry Programme report enclosed.

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Solidarites Afghanistan

Director Olivier Rousolle advises that this organization has no current forestry activities.

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Swedish Committee for Afghanistan, Agriculture Dept.
(formerly: Agricultural Survey of Afghanistan)
57-C Gul Mohar Lane
University Town, Peshawar

Telephone: 45257, 45357

Contacts: Dr. Azam Gul (Dir., Agriculture Dept.)

The main source of agricultural statistics and planning for Afghanistan. Preliminary planning for a forestry programme in 1991 has been suspended as they have no forestry expertise at present. Data collected during annual surveys conducted throughout Afghanistan are entered in a dBase IV system and used to write the Survey's reports. Fuel prices have never been collected.

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## 1.0 Introduction and Objectives

This report was commissioned by the Domestic Energy Saving Project of GTZ to serve as background information on previous and current environmental activities in Afghanistan, particularly with relation to forests and forestry programmes.

The terms of the contract were:

1. Inventory available information in existing databases concerning environmental issues in Afghanistan, especially statistical information concerning supply prices of fuel.

2. Inventory available information on social forestry and vegetation-related programmes in Afghanistan.

3. Inventory literature concerning forestry and forestry related topics in Afghanistan. Identify key resource books/reports on social and agro-forestry in general.

4. Identify resource persons on environmental and forestry related issues in Afghanistan, both in Pakistan as well as abroad.

## 2.0 Methodology

The research for this report was undertaken by Chris Nelson and Fahim Rehimyar of ARIC, over a 5-week period commencing November 1, 1990.

The literature survey was completed using the library resources of ARIC, the Pakistan Forest Institute and the American Centre in Peshawar, as well as the facilities of the National Agricultural Research Centre, Pakistan Council of Appropriate Technology, and the Pakistan Agricultural Research Centre, Islamabad. A list of all references collected for this contract comprises Appendix 1.

Information on current programmes involving forestry in Afghanistan was obtained initially from the literature search; details were then verified by interviewing representatives of agencies based in Peshawar. Time did not permit travel to Quetta nor visits to areas outside of Peshawar and Islamabad. A number of organizations in Islamabad engaged in related activities were also visited.

## 3.0 Summary of Literature Search

Almost 60 substantial references pertaining to forestry in Afghanistan were identified in the literature survey. The earliest date from the 1950s, though 80% have been published in the last 20 years. Reports on afforestation completed as part of the Helmand River Valley Project (which involved USAID and its predecessors)

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UNHCR (Peshawar Office)
1 Gulhomar Lane
University Town

Telephone: 41038

Contacts: Rob Breen

UNHCR began conducting comprehensive surveys in most of the border provinces in 1989 for their Background Reports. The prices of various commodities as listed in the reports may be of some use, though some are now over a year old. No recent information is available from the UNHCR database.

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UNOCA/UNIDATA (Peshawar Office)
House 80
Street 9
Defence Colony

Telephone: 76602, 78879

Contacts: Dr Mohammad Alam (UNOCA)
Mr Sami Siddiqui (UNIDATA)

UNOCA is currently planning for the rehabilitation of forests in Afghanistan and hopes to obtain funding for a conference on this subject in 1991. Dr Alam, formerly of the Forestry Department of Kabul University, is critical of the programmes of FAO and recommends a different approach in a report now being edited for publication. Another report, on forestry activities in Paktia Province, will be part of a larger socio-economic survey report of the province, one of a series for which extensive data has been collected and is currently being input to a database. Mr Siddiqui maintains the database, which includes prices for a wide variety of fuels.

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World Vision International

Telephone: 42431

Contacts: Brian Graul (Director)

Considered a forestry programme in 1989 and commissioned a survey by AgriSurvey to ascertain the state of forestry but will not proceed with the programme as no funds are available.

Islamabad:

ENERCON (National Energy Conservation Centre)
Ministry of Planning & Development
Plaza 33
Blue Area (opp. American Center)

Telephone: 813003

Contacts: Dr Sabir Mahmud (Director-General)
Ahmareen Farah (Seminar Organizer)
Beenish Habib (Information Analyst/Librarian)

The Pakistan Government's body for domestic and industrial energy saving. Ms. Farah conducts seminars on energy saving in the home -- to date, only in Islamabad, though the intention is to expand throughout Pakistan. A collection of documents and journals is currently being organized.

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FAO (Pakistan Office)
House 2
Street 52
F6/4

Telephone: 819715, 819967

Contacts: Anthony Fitzherbert (Representative)

Main funder and supplier of seedlings, etc., to NGOs involved in horticultural and forestry projects in Afghanistan. Have also arranged short orchard/nursery management courses with the Agricultural Research Institute at Tarnab, NWFP. A major new FAO forestry project is being planned with the USSR for 1991. A library located in the UNDP Building, Diplomatic Enclave 1, G-5, contains all FAO reports and other materials.

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National Centre for Rural Development
Park Road,
Chak Shezad

Telephone: 824721

Contacts: Mohammad Rafique (Director-General)
Hamidullah Shah (Librarian)

Not visited.

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National Agricultural Research Centre (NARC)
Park Road (near National Health Institute)

Telephone: 82005

Contacts: Shaheed Majid (Dep. Dir., Directorate of Scientific Information)
A. Dastgir (Librarian)

The main agricultural research institution in Pakistan. The library contains 25,000 items, approximately 200 of which are on general forestry topics. They hold over 500 journal titles including a number of forestry periodicals as well as the two main abstracting titles, Bibliography of Agriculture (to 1987) and Forestry Abstracts (1981 to present with some previous volumes also held). Most FAO publications are held in either hard copy or microform.

NARC is also the Pakistan participant in FAO's AGRIS database (the on-line equivalent of AGRINDEX). Although on-line searches are usually not feasible because of Pakistan's poor telecommunications lines, staff in the Documentation Section (below the library) can perform CD-ROM searches on AGRIS and disks, time permitting.

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National Conservation Strategy Secretariat
404-5 Shaheed-i-Millat
F-6

Telephone: 820598

Contacts: Azharuddin Khan (Administrator)

The office of the GOP which is compiling Pakistan's National Conservation Strategy. Due for completion in 1991, the comprehensive document is expected to be a model for other countries in the region.

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Pakistan Agricultural Research Council (PARC)
Plot 20
G-5/1

Telephone: 852513

Contacts: Mirza Ashraf (Dir., Forestry & Environment)
Fazl Karan (Librarian)

PARC is the main administrative body for agricultural research in Pakistan, its research parallel being NARC. The library is small and primarily for the use of management staff.

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Pakistan Council of Appropriate Technology (PACT)
1-8 Street 47
F-7/1

Contacts: Dr A.A. Junejo (Chairman)

The main Pakistani agency involved in development of fuel-efficient cooking stoves and energy-saving technology. A small library is open to the public.

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Winrock International
58 Khayaban-e-Iqbal
F-7/2
Islamabad

Telephone: 813262, 813272

Began a Forestry Planning and Development Project for the Government of Pakistan (contracted by USAID) in 1985. The project is still current and includes various aspects of forestry research, education and training, reafforestation and policy development.

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Elsewhere in Pakistan:

Malakand Social Forestry Project
Box 9
Saidu Sharif

Telephone: (0531) 5786

Contacts: Jan Helsen (Extension Specialist)
Johan Nieuwenhuis (Training Specialist)
Zarnigar A. Tayib (Forester)

Conduct a social forestry programme with the participation of the local community.

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Pakistan Forests Department (Quetta)

Telephone: (081) 74271

Contacts: Ghias Uddin Ahmad (Chief Conservator)

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Punjab Forestry Research Institute
near Gatwala Forest Park,
on Lahore-Faisalabad Highway (17 km from Faislabad)

Contacts: Mohammmed Hafeez (Director)

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APPENDIX 5: Organizations and Resource Personnel Overseas

The following list is selective -- special attention has been given to German institutions. For further names and addresses, see the registers listed in Appendix 2 under FAO, Commonwealth Agricultural Bureau and Overseas Development Institute.

Italy:

FAO Dept. of Forestry
Via delle Terme di Caracolla,
Rome 001000

Telephone: 6-5797-3256 Telex: 610181

Contacts: Mr. C. Chandrasekharan (Forestry Planner)
Mr. M. Chipeta (Forestry Officer)
Ms. Marilyn Hoskins (Community Forestry Officer)

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Germany:

Der Albert Ludwigs Universitat
Forstwissenschaftliche Fakultat
Erbprinzenstrasse 13
D-7800 Freiburg im Breisgau

Telephone: 0761-203-3155 Telex: 772-740 ufd

The university has several institutes associated with it, including the Institut fur Landespflege, which has programmes in forestry in developing countries and fuelwood production.

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Forstliche versuchs- und forschungsanstalt Baden-Wurttemberg
Wonnhaldestrasse 4
D-7800 Freiburg im Breisgau

Telephone: 0761-4018

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Der Georg August Universitat
Busgenweg 5
D-3400 Gottingen

Telephone: 0551-393-472 Telex: 96703 unigoe

Also has a number of associated institutes.

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GTZ Dept. of Rural Development
Hauptstrasse 26,
Tiefenbach 7919

Telephone: 7303-2973 Telex:

Contacts: Dr. Guido Kuchelmeister (Adviser)

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Der Ludwig Maximilians Universitat
Hohenlindenerstrasse 5 and Schellingstrasse 12
D-8000 Munchen 80 D-8000 Munchen 40

Telephone: 089-912-038 2180-3551

Affliated institutes have programmes in social forestry, fuelwood and energy studies.

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Kenya:

International Ccuncil for Research in Agroforetry
P.O. Box 30677
Nairobi

Telephone: (254-2) 521450 Telex: 521001

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Thailand:

ESCAP Agricultural Division
UN Building
Rajdamnern Nok Avenue
Bangkok 10200

Coordinates an agricultural information network in South and Southeast Asia. Publications include: Agricultural Information Development Bulletin.

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United Kingdom:

Overseas Development Administration
Eland House,
Stag Place,
London SW1E 5DH

Telephone: 01-213-7719 Telex: 263907

Contacts: Mr. Ron Kemp (Forestry Adviser)

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Overseas Development Institute
Agricultural Administration Unit
Inner Circle,
Regent's Park
London NW1 4NS

Telephone: 01-935-1644

Contacts: Dr. Gill Shepherd (Research Officer)

Operate the Social Forestry Network of information sharing. A register of SFN members is published.

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Oxford Forestry Institute,
University of Oxford,
South Parks Road,
Oxford OX1 3RB

Telephone: 865-275028
-275125

Telex: 83147

Contacts: Dr. Jeff Burley (Director)
Mike Arnold (Senior Research Officer)
Margaret Evans (Social Forestry Research Fellow)

Publishes the Commonwealth Forestry Handbook (annually).

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United States:

Society of American Foresters
5400 Grosvenor Lane
Bethesda, MD 20814

Telephone: 301-897-8720

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World Forestry Center
4033 S.W. Canyon Road
Portland, OR 97221

Publishes Forest World journal and a register of foresters with international experience.

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account for most of the works published before 1965. Regional studies of forests in Kunar (7 references) and Paktia (5 refs.) then appear, along with general works on poplar cultivation in Afghanistan (9 refs.). Since 1985, reports have been mainly on plans for rehabilitation of forests, prepared by or for ACBAR, DAI, FAO, IRC and UNOCA (8 refs.).

The major source consulted for pre-1968 reference material was the Bibliography of materials dealing with agriculture in Afghanistan by Lloyd C. Pickett, Mohd. Qasem Ma-yar and Zarghuna Saleh (Kabul University, 1968). Of 50 items categorized under "Forestry" in this work, most are less than 10 pages long and only twelve were considered to be "very important" by the original compilers. The other entries appear to be mainly publicity brochures and brief memos; these have been excluded from the listing in Appendix 1.

Post-1968 references have been culled from bibliographies and references in the reports themselves as well as a CD-ROM search of the AGRICOLA (1970-1989) and AGRIS (1989 only) databases. This search was conducted at the National Agricultural Research Centre in Islamabad, courtesy of the Deputy Director of the Directorate of Scientific Information, Shaheed Majid.

Information regarding forestry and related issues in Pakistan was outside the scope of this survey but may be pertinent to some work in Afghanistan. Pakistan bibliography of watershed management by Bo-Myeong Woo (Peshawar: PFI/FAO, 1990) is a 101-page listing of such items which may be of interest.

## 4.0 Summary of Current Programmes in Afghanistan

Eight organizations are listed in the ACBAR/SWABAC database as having current or planned forestry activities in Afghanistan. Of these, two could not be contacted for further information (Health Unlimited in Quetta and the Integrated Development Group, address unknown). Another two advised that their forestry activities had been completed or had never advanced beyond the planning stage (Solidarites Afghanistan and the Swedish Committee for Afghanistan, respectively).

Representatives of the remaining four agencies (DACAAR, MADERA, SERVE and the Norwegian Committee) and five others not listed in the ACBAR/SWABAC database (Afghanaid, ARC, IRC, DAI (Development Alternatives, Inc.), and UNOCA) were all interviewed.

Depending upon the definition used, all or none of these agencies have "forestry" programmes inside of Afghanistan. Most of them have established combined fruit tree and "reafforestation" nurseries on varying scales. Some consider this as preliminary work for more extensive reafforestation programmes, others do not. The main emphasis of most of the programmes is on fruit trees, since that is the preference shown by Afghan farmers -- their most immediate need being food.

Deforestation has occurred on a wide scale because of the war and felling of trees continues in some areas as the timber is used for construction and as a source of income. Non-fruit tree species being grown in nurseries inside include poplar (through FAO's fruit tree and poplar seedling programme, distributed via several NGOs), as well as smaller numbers of leucanea, eucalypt, pine, fir and other local species.

Attempts to begin social forestry programmes by raising community awareness of the problems of deforestation are being made by a few of the agencies, most notably MADERA.

Details of the programmes of each of these agencies, including contact persons, are listed in Appendix 4.

## 5.0 Summary of Resource Persons and Organizations

Organizations in Pakistan which do not have programmes cross-border but are active in the fields of forestry or conservation are also included in Appendix 4. Further, Appendix 5 is a list of selected organizations with expertise in social and agroforestry elsewhere in the world.

Inside Afghanistan itself, a number of agricultural institutes, schools and agricultural bodies existed before the war, including the Faculty of Agriculture at Kabul University. It is not known what programmes these institutions may currently have -- if they are operating at all. Both Dr Wakil (DAI) and Dr Alam (UNOCA) believe that there are no forestry activities currently being implemented by any institution or Kabul government body.

## 6.0 Summary of Existing Databases

None of the organizations visited maintain comprehensive databases on environmental issues in Afghanistan; most do not have databases of any description.

The largest database, that of the Swedish Committee's Agricultural Survey of Afghanistan, contains a wide range of agricultural data but fuel statistics are not among them. Similarly with the smaller database maintained by the International Rescue Committee.

UNHCR compiled a large amount of data to prepare its series of provincial Background Reports, including fuel prices in some districts. This information is now becoming dated and as UNHCR's surveys have diminished considerably, is unlikely to be updated. However, UNIDATA has been collecting exhaustive statistics for its similar socio-economic status reports. These will include prices of petrol, diesel, kerosene, coal, firewood and dung. Statistical data collected from 11 provinces is currently being input into a database maintained by Mr Sami Siddiqui.

Several fuels were among the target commodities to be surveyed by DAI's teams in 1990, but information was not collected on all of these, apparently due to time restrictions. No fuel statistics appear in either of the bazaar surveys published to date.

Afghanaid has no database at present but may establish one upon the return of field workers in December/January. Survey forms taken by the field workers included questions regarding fuel prices; if sufficient forms are returned, a database will be set up.

## 7.0 Recommendations

Some important literature references have undoubtedly eluded the researchers. Dr Alam (UNOCA) referred to works by Kitamura and others which he had used in Kabul, but no further details could be found. If possible, these should be located by someone with access to the library of Kabul University and other institutions over the border. However, Dr Alam advises that many books and resource materials have disappeared from the libraries during the war, so this may prove unsuccessful.

More information very likely lies dormant in unpublished reports. Marshall (1990), for example, refers to the GTZ work of the mid-1970s in Paktia and notes "field staff almost certainly submitted monthly reports to their head office...records must exist." Only one reference to this work (GTZ, 1976) could be identified. A representative of the GTZ head office who attended the GTZ planning seminar in November advised that GTZ does not have a library (!) but presumably the reports are kept in closed archives which could be accessed if planning for a new forestry project is to proceed.

Time restrictions prevented the researchers from visiting all known organizations concerned with environmental issues. Others no doubt escaped detection entirely. Those already cooperating with GTZ were deliberately given lower priority for visiting when it became clear that insufficient time was available to visit all agencies. It should be relatively easy for GTZ staff to add them, as well as GTZ itself, to Appendix 4. This would be especially worthwhile if this report is to be made available to other agencies.

To ensure effective communication and cooperation with other agencies working in this field, some discussion on semantics might be in order. Agreeing on what constitutes a forestry programme (tree nurseries? seedling distribution? woodlots? large-scale reafforestation?) might prove useful.

The UNOCA seminar on plans for a national forestry rehabilitation programme in Afghanistan, to be held in January, next year (if funding is made available) should provide an appropriate forum for further consideration of forestry and environmental issues in Afghanistan.

APPENDIX 1: Literature on Forestry in Afghanistan

Listed here are all of the major works on forestry and related topics in Afghanistan identified during the period of the contract. Details vary, since a variety of reference sources have been consulted and complete information was not always available.

ACBAR
Guidelines for the planning and implementation of projects for agricultural rehabilitation in Afghanistan [p.13: "Trees and forestry"] (Peshawar: ACBAR, 1990). 1 p.

Alpay, O.N.
Range management and animal husbandry practices (FAO, 1974). 66 p.

Azghari, Q.
Etude sur les peupliers et la populiculture en Afghanistan, project UNDP (FAO, 1968?) [AFG/67/515]

Bariamova, G.S.
Change in moistening of the Murgab River Delta in Problems of of desert development #2, pp.79-83.

Bradford, Lester E.
Agroforestry in Afghanistan (DAI/USAID, in preparation). 10 p. + appendixes.

Cartwright, J.
Purchase of fruit trees and poplars for the 1989/90 planting season (FAO: in preparation). 16 p. + annexes (9 p.) [AFG/002/UNA]

Chandrasekhran, C.
Forests and forestry in Afghanistan (FAO, 1981)

Commission International du Peuplier
Rapport national de l'Afghanistan (1974)

Corson, C.W.
Plant propagation: Helmand Valley (Lashgar Gah: FOA & HVA, 1955). 20 p.

Terminal report, 1954-1956 [on the forestation program -- Helmand River Valley Project] (Lashgar Gah: USOM, 1956). 31 p.

Faizi, Baz Mohammad
Helmand Valley forestry plan (Lashgar Gah: HAVA, 1964). 12 p.

FAO (see also: Alpay, Cartwright, Chandrasekhran, Hotte, McCarty, Nedialkov and Tandon)

Assistance to forestry and watershed development: Afghanistan; project findings and recommendations (1980). 21p. [AFG/79/009]

Asia-Pacific Forest Industries Development Group. Asia and the Pacific Region: Afghanistan...[et al.]. Interim report (Rome: FAO, 1988). 74 p.

Checkdam demonstration in Chemtala watershed (1980) [AFG/79/009]

Evaluation of the sawmilling industry in the Kabul area (1980) [TCP/AFG/8802]

Kunar wood utilization development and demonstration: Afghanistan (1980) [TCP/AFG/8802]

National parks and wildlife management Afghanistan: a contribution to national strategy (1981)

Proposal for a sawmilling industry in the Kunar region (1979) [AFG/74/004]

Study on problems of watershed management, Asia and the Pacific Region: Afghanistan...[et al.]. Project findings and recommendations (Rome: FAO Forestry Dept., 1988). 29 p.

Survey of wood processing organizations in Kabul area showing products performance (1979) [TCP/AFG/8802]

Watershed management in Asia and the Pacific: needs and opportunities for action (Rome, 1986). 166 p.
Includes 1 p. commentary on Afghanistan's forestry activities in mid-1980s by FAO representative in Kabul.

Fischer, Dieter
Distribution of forests, farm forestry and commercial exploitation of forests in Eastern Afghanistan (Meisenheim am Glan, 1970). 139 p.

GTZ
Elf jahre afghanisch-deutsche zusammenarbeit in Paktia: abschlussbericht uber ein land- und forst-wirtschlaftiches projekt der GTZ (Eschborn: GTZ, 1976). 29 p.

Hotte, E.
Forest management plan for the Diwagal Forest [Kunar] Afghanistan: assistance to forestry and watershed development (UNDP/FAO, 1979). 60 p. [AFG/79/009]

Jahn
Forst in Paktia (Frankfurt: BfE, 1972). 56 p.

Khan, M.I.R. and A.R. Beg
A phytogeographical excursion in Afghanistan (1968)

Lobell, E.
Forests and forestry in Afghanistan in Forst-holzwirt, v.27, no.14, pp.312-318 (July 1972).

M.M. Ali Semizoglu
Traisieme rapport d'activite de l'expert conseil en genetique dupeuplier (1972) [AFG/67/515]

Marshall, Hugh
Chamkani rehabilitation project, Afghanistan: potential for forestry activities (Peshawar: Agrisystems, 1990). 15 p.

Mayer, Karl R.
Trip report: Southern province forest reconnaissance trip (Kabul: USAID, 1959)

McCarty, H.J.
Forest inventory handbook for Afghanistan (FAO, 1979). 83 p.

Metin Vural
Pathologie du peuplier: rapport technique final (1973) [AFG/67/515]

Minwalla, Naomi
Reafforestation efforts inside Afghanistan (IRC, 1989). 17 p. + stats (8 p.)

Nathan, Robert R., & Assoc.
Annual economic and social development plan for 1353 (GOA, 1974). 170 p.

Sectoral planning study of Afghanistan agriculture (Asian Development Bank, 1971)

Nedialkov, S.T.
Development of forests and wood industry in Kunar (FAO, 1976) [AFG/74/004]

Ecological areas of the forest trees and bush vegetation in Afghanistan (Sofia: Bulgarska akademiia na naukite, 1978). 20 p. In Bulgarian, with English and Russian summaries.

Etude sur la classification ecologique de la vegetation ligneuse naturelle en Afghanistan (UNDP/FAO, 1973). [AFG/67/515]

Paktia Development Project Authority
Forestry project of Paktia (Kabul, ca.1966) 11 p. in Dari.

Patten, Oscar M.
Forest resources in the Kunar Province and recommendations for a forestry program in Afghanistan (Kabul: USAID, 1965). 30 p.

The Forests of Kunar Province, Afghanistan (Kabul: USAID, 1965). 12 p.

Termination of assignment report (Kabul: USAID, 1962). 10 p.

Pillsbury, Harold W.
Notes on horticultural work in the HAVA (Kabul: USAID, 1973)

Royal Government of Afghanistan
Request from the Royal Government of Afghanistan for UNDP assistance for the forest and range improvement and training of personnel in Afghanistan (Kabul: RGA, 1966). 16 p.

Silvio May
Poplars in Afghanistan <u>in</u> Unasylva 31:124, pp.29-32 (1979)

Smith, Russell K.
Report on the forest situation in Afghanistan with special reference to afforestation in the Helmand River Valley (Kabul?: FOA, 1953). 44 p.

Taher Naqsud
Poplars in Afghanistan: special paper submitted to the Indian Forest College, Dehra Dun, India; n.d. (ca. 198-).

Tandon, J.C.
A manual for planting of poplar in Afghanistan (Kabul: FAO, 1984). 46 p. [AFG/82/003] Was due to be translated into Dari, but no further information on this has been found.

Consultancy report on poplar cultivation in Afghanistan (Kabul: FAO, 1984). ix, 77, vi p. [AFG/82/003]

UNOCA
Report on national forestry rehabilitation programme for Afghanistan (in draft stage, 1990). 12 p.

Round table conference on key issues in agricultural sector (1988). 8 p.

Urano, James A.
Forestry activities (Kabul: USAID memo, 1965). 5 p.

Oscar Patten's visit to Helmand Valley and recommendations for further HVA forestry program (Kabul: USAID memo, 1964). 8 p.

Von Dueckelmann
Final report of the Department of Forestry (Kabul: the Dept., ca.1950). 43 p.

Report on forests of Afghanistan (Kabul: s.n., 1951)

World Bank
Afghanistan, the journey to economic development (1978) [1777a-Af 2030/UBRD/-14]

APPENDIX 2: Selected Literature on Forestry in General

There are literally hundreds of general works on forestry and related topics listed in the standard reference sources. The short list below is biased towards items in the English language, both because this is the only language the researcher can read and because most of the reference sources available are in English. Most of the following titles meet another criteria for inclusion, however -- being frequently cited in other works examined.


Briscoe, Buford C.
Field trials manual for multipurpose tree species (Winrock International Institute for Agricultural Development, 1989). 163 p.

Commonwealth Agricultural Bureau
Commonwealth Forestry Handbook (London: CAB, published annually).
Includes directory of members, periodical lists and forestry statistics for countries (derived from FAO publications).

Duerr, William A., et al.
Forest resource management: decision-making principles and cases. Revised ed. (Corvallis: Oregon State University, 1982). 612 p.
A major text and reference for tertiary level forestry courses.

FAO have a number of publications relevant to the field; those of the most immediate relevancy appear to include:

Environmental impact of forestry: guidelines for its assessment in developing countries (1982) 95 p.
A Forester's guide for community involvement in upland conservation, with special reference to the Asia & Pacific Region (1986) 123 p.
Forestry and rural development (1982) 38 p.
Forestry for rural development (1981) 56 p.
Monitoring & evaluation of participatory forestry projects (1985) 133 p.
World list of institutions engaged in forestry & forest products research (1986)

Leuschner, William A.
Introduction to forest resource management (New York: Wiley, 1984). vi, 298 p.

Overseas Development Institute (UK)
Social forestry network: directory of members (London: ODI, published annually).

ARIC-DESP Environmental Issues Research

Final Report to Wilfried Herrich, DESP

by Chris Nelson, ARIC

December, 1990

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